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ABSTRACT

This paper describes a continuing education course designed to introduce school librarians to computer and communications technology as applied to indexing, cataloging, and networks, and to the principles and techniques of systems analysis. It is based on the premise that although computer and communications technology presents school librarians with great opportunities to develop more innovative approaches to information retrieval in the educational environment, education for school librarianship has only recently begun to deal with their implications and to design instruction for school librarians. The description also reviews the course objectives and scope, together with its structure and content, and examines the effect it has had on participants and library services in New South Wales. (Author/RAA)

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TECHNOLOGY, SYSTEMS & SCHOOL LIBRARIANS

AN APPROACH TO CONTINUING EDUCATION

by

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September, 1980

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SCHOOL LIBRARIANS, SYSTEMS AND COMPUTERS

Computerised systems have been a feature of large and specialist libraries in Australia for some time, but the use of computer technology in school libraries is relatively new. Developments to date in Australia are limited, and SAERIS and the ASCIS project have concentrated on using machine-readable bibliographic records for copy cataloging and card reproduction services.

Computer and communications technology presents school librarians with great opportunities to develop more innovative approaches to information retrieval in the education environment. Unfortunately, education for school librarianship has only recently begun to deal with the implications of this new technology for school libraries. Consequently school librarians have felt that computers are not relevant for their situation.

In an attempt to give school librarians the opportunity to familiarise themselves with this whole area, a continuing education course - School Libraries and Information Needs - A Systems Approach - was developed by the writers. The course has now been offered four times, very successfully, in a variety of situations with the number of applications always exceeding the number of places available.

The purpose of this article is to present the objectives and scope of the course, review the course structure and content, and examine the effect that the course has had on participants and library services generally in New South Wales.

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COURSE OBJECTIVES

The principal objectives identified for the course were:

- to familiarise school librarians with computer and communications technology and their applications for library services.
- to provide some practical experience with computer applications.
- to introduce participants to the principles and techniques of systems analysis and their relevance to meeting the information needs of schools.

The course was designed to focus on recent developments in computer and communications technology, provide "hands on" experience, and introduce participants to systems analysis. Each of these areas presented challenges in determining the breadth and depth of their coverage. Although a number of school librarians had approached the organisers about the possibility of conducting such a course, it was difficult to anticipate initially the background and orientation of those who would actually apply.

The course was designed as a continuing education activity for practising school librarians. It was co-sponsored by the Northern Districts Education Centre (Sydney) and the Centre for Library Systems, Kuring-gai College of Advanced Education. Financial support and official endorsement by the New South Wales State Development Committee and its Educational Region counterparts enabled the participation of librarians from both government and non-government schools at primary and secondary levels.

COURSE STRUCTURE

Developing an appropriate structure for the course presented problems in terms of judging an acceptable length and time-frame. The course was first offered on a statewide basis over four days, on two consecutive Fridays and Saturdays. It was thought that this arrangement of dividing the course into two two-day segments would give participants a break to assimilate concepts presented and to consider possible practical applications in their own situations, as well as to do some reading for the second segment.

This pattern was repeated for the second statewide course in November 1979.

When the organisers were approached by participants in the two statewide courses to mount the course on an educational region basis it was necessary to reduce the length of the course to meet regional inservice education funding requirements. The course has now been offered in two regions - one metropolitan and the other a country region. The Regional courses run over two consecutive days and include an evening session on the first day.

For the regional courses participants were sent a considerable amount of pre-course reading material. This approach was very successful in overcoming the difficulties of presenting the shorter course without a five day break in which to assimilate the many new ideas. Participants were conscientious and made a real effort to grapple with the information and concepts presented in the reading. Many arrived "steeped" in systems, somewhat wary, but motivated to come to terms with those areas they had not understood.

COMPUTER & COMMUNICATIONS TECHNOLOGY

The first section of the course focused mainly on the first two objectives - familiarising school librarians with computer and communications technology and providing some practical experience with computer applications.

Each course began with a lecture by Dagmar Schmidmaier on technological change and its implications for libraries. Features of the communications system in Australia were outlined together with requirements for an effective data communications network. It was impressed upon participants that man has more technology available than he is able to use at present.

Different aspects of computer hardware and software were introduced in a joint session usually let by Allen Hall and Dagmar Schmidmaier. (In each of the Sydney based courses, Allen Hall, lecturer at Kuring-gai C.A.E. and the first executive director of CLANN LTD., took an active part in

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lecturing and leading workshop groups.) Participants were then taken on a tour of the computer Centre in the college in which the course was being held - Kuring-gai C.A.E. for Sydney-based courses, Mitchell C.A.E., Bathurst for the Western Region course. In the later courses, this segment concluded with the film *Basic Computer Terms*.

INDEXING

Participants gained their first "hands on" experience during a KWIC/KWOC indexing workshop in the afternoon of the first day of the course. This involved compiling "Key-word-in-context" and "Key-word-out-of-context" listings by preparing data card layout sheets, punching the cards and running the punched cards through the college computer system. Examples of both KWIC and KWOC listings were printed on two part paper so that each participant could have a sample sheet to keep.

Although the colleges concerned now have on-line data entry systems operating, it was found that having participants complete data card layout sheets and punch these onto cards was a very effective approach for assisting those with no previous experience to come to an appreciation of the concepts involved in producing computer generated lists. The use of the simple Kuring-gai KWIC/KWOC indexing program provided a "responsive" introduction to utilising computer technology. It also served as a useful prelude to the more complicated intricacies of preparing MARC format catalog records.

MARC CATALOGING

After a lecture introducing machine-readable cataloging, participants were again divided into groups for another "hands on" session. This time their task was to prepare machine-readable catalog records for the production of an alphabetic bibliography. It was felt that there was no substitute for understanding the concept of the MARC format than the preparation of

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actual records in MARC format. In the four day courses, participants punched these onto cards and received their output the next day. The two day course did not allow time for this. Instead, sample printouts were distributed and their contents discussed.

Thus, a key concept in computer technology - that a single data entry may provide many access points - was confronted and grasped by participants through completion of a simple index in the form of a KWIC/KWOC listing as well as the more difficult catalog records in MARC format. These were processed quickly so that immediate feedback was available. In the words of participants these sessions succeeded in "totally demystifying" the whole area of computer applications to library systems.

NETWORKING

Some of the theory behind the development of networks was presented in a lecture session which examined the implications of computerized network developments for school libraries. Participants were not encouraged to see network developments as an easy and all-encompassing panacea, but as a new approach to solving problems which could reduce the dependency of a user on one local information source by providing him with many access points. The significant features of networks in terms of a contractual agreement, defined goals, separate funding and management structures were discussed, along with the fact that network developments are related to technological developments, with the main asset of the network being its machine-readable data base. This session usually ended with a lively discussion on how networks should develop and how they might be funded in Australia.

In the four day courses, participants had the opportunity to see a computer-based network in operation with a demonstration of the CSIRONET on-line information retrieval system. The Kuring-gai Department of Library and Information Studies has a terminal linked to CSIRONET so that students can gain some familiarity with the experience in searching computerised data bases.

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Participants were able to benefit from this, viewing a number of profile constructions and searches on the CSIRONET data base.

SYSTEMS ANALYSIS

The second section of School Libraries & Information Needs - A Systems Approach focused on the third course objective - introducing participants to the techniques and principles of systems analysis and their relevance to meeting the information needs of schools. An introductory lecture on the systems approach as a way of coping with change stressed the desirability of examining the adequacy and effectivness of various library operations in the context of the total system.

The techniques and procedures that may be used in a systems study were then outlined. These included establishing clear goals and objectives, documenting current procedures using flowcharting methods, evaluating the appropriateness of current procedures, and designing new systems.

Throughout the lectures and discussions in this segment, participants were encouraged to re-examine and evaluate their current library organisation, procedures, practices and attitudes. It was strongly suggested that there were two misconceptions about libraries which needed to be overturned: firstly, that library operations could not be costed in the same way as business organisations; and, secondly, that it is too difficult to set objectives for libraries.

SYSTEM STUDY

Continuing to follow the maxim of learning by doing, participants were divided into groups and challenged with a task in the form of a limited system study which aimed to give them the opportunity to apply the techniques of systems analysis outlined earlier in the morning.

Different tasks were set depending on the length of time available to complete the study. In the longer course, three hours was available for

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this task. The two day course allowed only an hour and a half.

In the four day statewide courses, the immediate problem with which each group was presented was one in which the Regional Director of Education had requested a submission from the Group on the establishment of a regional technical processing centre, initially to serve schools in two districts of the Region. The Regional Director was said to be concerned about the lack of co-ordination regarding acquisitions and circulation of resources in schools and centres in the region, and, also, in the amount of time school librarians spend in cataloguing and classification - tasks that are repeated in many schools.

Each group was asked to prepare a submission concerning the establishment of a computer-based regional technical processing centre for presentation and discussion at the following session of the course. Suggested procedures for completing the task were given to each group as a guide. Details of TECHNILIB, a technical processing centre established by Public Libraries in Victoria, were supplied to provide an example of an operational model of a regional processing centre.

As part of their submission, participants had to document and cost their current technical processing procedures and prepare an evaluative statement concerning the suitability of present procedures to meet current needs and possible future developments in the region. Then they were asked to discuss guidelines for establishing the regional technical processing centre, including objectives, formal structure, and advantages and disadvantages of such a centre.

Obviously the three hours allocated to such a task were insufficent for a detailed and comprehensive treatment of the issues raised. However, it did give group members the opportunity to work through the procedures involved in applying and techniques of systems analysis to a given situation. Feedback from participants certainly indicated that the exercise was a most valuable

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one in that they now had some guidelines established and available for use and adaptation in their own situations. Participants also indicated that they had developed a better appreciation of the planning needed for future activities which they might undertake.

In the shorter regional courses, the task was to examine the types of issues and activities associated with school-level participation in two different systems - in a TECHNILIB-style network, and in the ASCIS project. Flow charts were provided documenting school level activities incurred in each of these systems. In practice, this session was also used to discuss issues not adequately covered to date due to time constraints, and to answer participants' questions concerning developments that had only been touched on in lecture sessions.

AUSTRALIAN DEVELOPMENTS

Existing network developments in Australia were covered in the final lecture session. Participants were asked to think about the relevance of existing networks to the school community. Were there specific needs and objectives in the educational environment which suggested that schools should build up and use their own data base? Was it advisable for different states to build up their own data bases? How can appropriate data bases be used to benefit students and teachers in a given area? What types of developments are best suited to national, state, regional and local levels? How can school librarians use their knowledge and understanding of computers and communications technology to bring about more innovative and resourceful approaches to information retrieval in the education environment?

LOCAL DEVELOPMENTS

The final section of each course consisted of two segments. Firstly, some recent local developments in the area of computer-based library services

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were outlined by a panel of speakers. Ranging over the four courses, these included a number of recent graduates from the Graduate Diploma in Teacher Librarianship course at Kuring-gai C.A.E., together with Allen Hall (speaking about CLANN Ltd.), Vic Rae from Liverpool educational region (on that region's COM-fiche KWOC union listing), Sue Parks (from Library Services, NSW Department of Education), and previous continuing education course participants discussing changes they had made to manual systems to improve services to staff and students.

These sessions were usually chaired by an education administrator. In each case, these chairmen challenged the school librarians to present them with relevant proposals in a manner which could be understood and the implications appreciated by administrators.

FINAL SESSION

In the final hour of each course, participants were asked to review their time spent learning about and experiencing computers, communications technology and the sytems approach to school information needs. From the discussion which generally ensued in this hour it appeared that participants felt that they had greatly benefitted from attending the course. Though many stated that they were exhausted and "reeling" from the pace, content and demands of the course, they were keen to have a "follow-up" in five or six months time for further input and updating, and as an incentive to utilise the information gained and skills developed as part of the course.

Others stated that they realised they "hadn't been thinking" for years. After the initial shock of having traditional attitudes and practices questioned, they had developed a new confidence to actively participate in shaping services to meet the current and future demands of their own environment. This very positive response was also reflected in the evaluation forms completed anonymously by participants.

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THE EFFECTS OF THE COURSE

To date, eighty-eight school librarians, including a number of regional library consultants, have completed the course School Libraries & Information Needs: A Systems Approach. There is a continuing demand for the course which the organisers cannot meet at present. Each time the course is offered, the number of applicants far exceeds the number of places available. This is despite the fact the participation in the course usually involves considerable after-hours and weekend time.

For each course, preference in the selection of participants was given to experienced and professionally active school librarians, who had not completed a Graduate Diploma course at Kuring-gai C.A.E. in the last two years. Thus, among the participants was a considerable number of experienced school librarians who were active in local librarians' groups and who were at a stage of "readiness" in their professional development where they could most benefit from such a course. It was also hoped that they would, in turn, act as catalysts or initiators for developments in their own regions and local areas. This has occurred in a significant number of cases.

The range of valuable activities undertaken as a direct result of participation in the course is quite considerable. These include union lists in KWOC format of periodicals, videotapes and audio-visual resources by a number of groups. Others are using the KWOC format for parts of school collections for which there has been no appropriate information retrieval tool previously.

A KWOC Users Group has been established to handle enquiries from school librarians about different applications of the Kuring-gai C.A.E. KWOC format. This is basically a self-help group where those who have already worked on a particular type of listing, say video-tapes, will assist a beginner in that field to learn the most effective way of preparing information for processing.

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A microcomputer group has been studying possible school-level applications of microcomputers which are now available in many schools, particularly high schools. The group is currently preparing specifications for a circulation system and has kept in constant contact with officers of the NSW Department of Education working in this area. The purpose of this contact is to ensure that such officers understand the requirements of possible library applications and that these may be considered when new tenders are called. This group has also provided information concerning the areas where microcomputer configurations which schools tend to purchase are not suitable for library applications.

Other course participants have reorganised collections and systems after doing formal or informal system studies on their current procedures. Examples of this include one librarian who is developing a subject index to her collection, and a number of librarians who have reorganised their fiction collections into theme areas. They felt that this was the way students tended to approach fiction reading. While this reorganisation did not involve the librarians in any application of computer technology, changes were made to provide more appropriate student and teacher access to resources. This type of re-evaluation of existing services and procedures is seen as a particularly important, though often intangible, desired outcome of the course.

The increased understanding of computer and communciations technology and network developments in Australia renewed the confidence of many librarians in working towards more substantial changes in current processing procedures. Many participants were unaware of some of the developments taking place and did not realise the potential for their own participation. It had not occurred to some librarians that they could and should have a say in the development of services that may affect them and their working environment.

Groups in a number of regions are now meeting to formulate proposals concerning the shape of future library and information services in their region. These include developments which can take place at the regional level as well as submissions to be forwarded to groups such as the NSW Department of Education's Library Services to provide input that should be considered in the development of statewide plans. The continuing "ripple" effect of the courses is difficult to measure. However, many course participants are members of regional library committees or committees of professional associations, such as the Schools Section of the LAA. In this capacity their increased awareness of the information field is continuing to have an effect on the nature and scope of other continuing education courses at local, regional and Statewide levels. The image of school librarians in the eyes of administrators and their teaching colleagues has also been seen to be considerably enhanced when some understanding and appreciation of computer and communications technology is shown.

When it is recalled that school librarians service approximately 23% of the population on a daily basis and incur greater expenditure nationally than public libraries in Australia, the importance of providing school librarians with an opportunity to familiarise themselves with current computer and communications technology, and the principles and techniques of systems analysis may be realised. They may be better able to take an active part in the planning of Australia's future library and information services.

The effects of the continuing education course School Library and Information Needs - A Systems Approach have been considerable, both for the course participants and for the development of school library services in NSW. School librarians are aware of the potential application of computer and communications technology in their environment and are working towards using that potential not for "more of the same" but for the improvement of services to staff and students.

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